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ABSTRACT

On September 30, 1986, 22 educators met in a forum on the Quality of Teaching in Puerto Rico to examine the problem of declining quality in the teaching force. Specifically, participants were concerned about working conditions, preparation, and professional development of teachers. After identifying the causes for the decline of teacher quality in Puerto Rico (and the United States), recommendations for action were made: (1) increase teachers' salaries to a competitive level; (2) provide incentives to reward teacher excellence and enhance the prestige of the profession (e.g., career ladders, merit pay, increased teacher role in decision making, adequate support); (3) reduce student/teacher ratio; (4) increase coordination among universities and the Department of Education to improve teacher education programs; and (5) provide more opportunities for continuing education and inservice training. In this monograph, current knowledge available from literature, research, and practice is applied to all of these recommendations. Appendices include a description of an exemplary career ladder program and data on selected projects funded by the Office of Educational Research and Improvement. (JD)

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The Policy Group

Teacher Quality

An Issue Brief

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The Regional Laboratory
for Educational Improvement of the Northeast & Islands

TEACHER QUALITY

An Issue Brief

ANNE E. NEWTON

MARCH 1987

By
The Regional Laboratory for Educational Improvement
of the Northeast and Islands
290 South Main Street
Andover, Massachusetts 01810

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INTRODUCTION

On 30 September 1986, a forum on the Quality of Teaching in Puerto Rico was held in San Juan, Puerto Rico, with 22 educators participating. Co-sponsored with Inter American University of Puerto Rico, the forum was part of the effort of The Regional Laboratory for Educational Improvement of the Northeast and Islands to link educators to educational policymakers within each of the states and islands of its region.

The purpose of a policy forum is to bring together in a neutral setting various role groups involved in a particular education problem. Working together in both role-alike and cross-role groups, they define a policy relevant problem and offer recommendations for consideration by policymakers.

The topic of the Puerto Rico Policy Forum was the Quality of Teaching. The groups represented were teachers; teacher coordinators and supervisors; professionals involved in teaching certification and recruitment; representatives of professional teacher organizations; and deans and professors of education. Specifically, participants were concerned about working conditions, preparation, and professional development of teachers.

Although the forum examined these issues for Puerto Rico, the problem is widespread. Policymakers and educators throughout the U.S. are striving to maintain or improve the quality of teaching in their jurisdictions.

Prior to and following the conference, staff of The Regional Laboratory analyzed the available literature, research, and best practice that focuses on improving the quality of teaching. The results of that analysis are presented in this Policy Issue Brief.

THE QUALITY OF TEACHING: RESEARCH AND PRACTICE

Having reviewed the thoughts and recommendations of the forum participants, it is time to consider available literature, research, and best practice regarding the problem. As the participants indicated, the reasons for declining teacher quality in Puerto Rico -- as well as in the states -- are numerous; therefore, the task of improving teacher quality is complex, and the solutions are multi-faceted.

The causes for declining teacher quality are substantiated in theory and/or research. Among these are:

- demographic trends (e.g., the number of college students majoring in education and the academic quality of those students has declined since 1973, an unprecedented number of experienced teachers are nearing retirement, number of school-aged children is increasing);
- expansion of occupational opportunities for women and minorities;
- salary levels that are not competitive with other occupations requiring a college degree;
- lack of prestige associated with teaching;
- dwindling of the nonpecuniary rewards of teaching;[1]
- lack of rigorous preservice programs, including internships;[2] and
- the need for systematic, long-range staff development programs to improve educational practice in schools.[3]

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[1]Linda Darling-Hammond, Beyond the Commission Reports: The Coming Crisis in Teaching (Santa Monica: The Rand Corporation, 1984), p. v.

[2]The Holmes Group, Tomorrow's Teachers: A Report of the Holmes Group (East Lansing: The Holmes Group, Inc., 1986), pp. 10-18 and Task Force on Teaching as a Profession, A Nation Prepared: Teachers for the 21st Century (Washington, DC: Carnegie Forum on Education and the Economy, 1986), pp. 23-24.

[3]Fred H. Wood, Steven R. Thompson, and Sister Frances Russell, "Designing Effective Staff Development Programs," in Staff Development/Organization Development, ed. by Betty Dillon-Peterson (Alexandria: Association for Supervision and Curriculum Development, 1981), p. 61.

In addition, a strong link between working conditions and the quality of teaching was confirmed by a recent study (1986) completed by the University of Washington and the Seattle Public School District. One of its major findings was that the quality of the workplace governs the degree to which both beginning and experienced teachers will grow and teach effectively.

After identifying the causes for the decline of teacher quality in Puerto Rico, several recommendations for action were made by the participants. Regarding working conditions, they advocated:

- an increase in teachers' salaries to a level that is competitive with comparable occupations and professions in the public and private sectors
- the provision of incentives to recognize and reward teacher excellence, thereby enhancing the prestige of the profession (e.g., economic incentives such as career ladders, merit pay; intrinsic incentives such as increasing teachers' role in decision making, providing adequate materials and support personnel)
- a reduction in student/teacher ratios

In terms of professional preparation and development, they urged:

- better coordination among universities and the Department of Education to achieve greater rigor in selection and promotion of teacher candidates, to revise curricular offerings, and to professionalize teaching
- the provision of opportunities for continuing education and inservice training for <u>all</u> teachers tied to economic incentives for improved performance

In the following sections, current knowledge available from literature, research, and practice is applied to all of these recommendations. It is hoped that this information will inform policymakers about teacher quality issues.

Working Conditions

Salaries

Information regarding the competitiveness of teachers' salaries is quite clear:

> Compared to other occupations, teachers' beginning salaries are low. The U.S. Department of Labor (1984) reports that the average beginning teachers' salary of $14,500 was almost $6,000 less than the average beginning salary for sanitation workers, $8,000 less than the average beginning salary for bus drivers, and almost $10,000 less than the average beginning salary for plumbers. Beginning teachers know what they will earn in the future and can see that long service carries with it limited rewards.

> Unlike other professions, teachers' earnings begin relatively high with respect to their ultimate earning potential. Teachers at the top of their salary schedule are likely to be relatively young professionally. Those who attain the top of their salary schedules -- after about fifteen years of service -- are only slightly older than doctors completing their residency. At precisely the same point that other professionals begin climbing toward their earning potential, the earning potential of teachers already has peaked.[4]

Although several states have instituted salary increases for teachers, only time and statistical data will enable educators and policymakers to determine the success of that initiative in attracting or retaining teachers. However, the literature highlights several dilemmas to consider regarding this practice: the ability to acquire the funds needed to accomplish this feat in an era of fiscal restraint, the potential of rewarding incompetent teachers, and the lack of a guarantee of better classroom performance.[5]

Even if increases in salaries attracted more competent individuals to teaching, research suggests that extrinsic rewards may not be the primary motivators of better performance. A synthesis of research on motivation reveals that there are five means through which teachers can be motivated:

- wages,
- satisfaction derived from expending energy on a task,
- satisfaction produced in assisting children to learn,
- social interaction, and
- social status.[6]

That finding is reflected in the Puerto Rico Policy Forum participants' expanded list of recommendations and those of the Task Force on Teaching as a Profession. In addition to monetary remuneration, the participants suggested:

- increased teacher participation in decision making (e.g., regarding materials and instructional methods to be used, the staffing structure, the organization of the school day, the assignment of students, the allocation of resources to be used),

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[4]Task Force on Teaching, Time for Results: The Governors' 1991 Report on Education. Supporting Works (Washington, DC: National Governors' Association Center for Policy Research and Analysis, 1986), p. 25.

[5]Ibid., pp. 25-26 and Robert Palaich, State Strategies to Improve Teaching (Denver: Education Commission of the States, 1985), p. 9.

[6]Robert Palaich and Ellen Flanelly, Improving Teacher Quality Through Incentives (Denver: Education Commission of the States, 1984), p. 7.

- more time for all professionals to reflect, plan, and discuss innovations and problems with colleagues, and

- the provision of more support personnel to alleviate administrative tasks.[7]

Incentives

In an attempt to gain greater assurance of improved classroom teaching, some states have studied and/or implemented performance-based incentive systems (e.g., merit pay plans, career ladder programs). Among the benefits they hope to gain from these systems are: an ability to recognize and compensate outstanding teachers, an improvement in teacher motivation and practice, a greater rate of teacher retention, and a reduction in absences by teachers. However, problems with teacher morale, evaluative procedures, funding, and administration of these programs have also arisen.[8]

On the following pages, information from literature, research, and practice regarding merit pay, career ladders, and other reward systems is given.[9] After presentation of this data, a description of at least one current program is offered.

Merit Pay Plans

Traditional "merit pay" plans award single payments for excellent performance. They are used much more widely in business and industry than in education.

Findings. Research has shown that merit pay plans can serve specific purposes in local education agencies, but they have "little or no effect on broad issues of teacher quality, e.g., recruitment and retention."[10] In systems where plans have failed, the primary reason

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[7]Task Force on Teaching as a Profession, A Nation Prepared: Teachers for the 21st Century (Washington, DC: Carnegie Forum on Education and the Economy, 1986), pp. 58-60.

[8]Kent C. McGuire and John A. Thompson, COSTS: The Costs of Performance Pay Systems (Denver: Education Commission of the States, 1984), p. 8.

[9]Mentor teacher programs, which are sometimes labeled performance-based incentive plans, are discussed in this paper in the section on professional development.

[10]Terry A. Astuto and David L. Clark, Merit Pay for Teachers: An Analysis of State Policy Options (Bloomington: School of Education, Indiana University, 1985), p. 37.

has been unsatisfactory evaluation procedures. A good evaluation procedure requires multiple measures to assess performance as well as substantial time and resources for evaluation. Astuto and Clark further state that in order for a plan to be successful:

- It must be an integral part of a district's total personnel development system.
- All interested groups must be involved in the planning, implementation, and continued evaluation and improvement of the merit pay plan.
- Adequate time must be allotted for design, development, and installation.
- It must suit the community and school district in and for which it was invented.[11]

Further, it is most likely that durable systems will involve teacher participation in evaluation, will emphasize group (school) rather than individual awards, and will tie merit pay to career development (i.e., career ladders, master teacher plans, differentiated staffing).[12]

Programs. A review of the literature identified one state with experience with a merit pay plan. In 1983, the Florida legislature adopted the Florida Master Teacher Program. Under its provisions, teachers who achieved a score in the upper quartile on a state-developed, subject area written test and in classroom observations using the Florida Performance Measurement System (FPMS) received a $3,000 bonus.

Fraught with difficulties from the beginning, the program was challenged in court by the two largest teachers' organizations and scrutinized by outside evaluators hired by the legislature. Dissatisfaction centered on two issues: the evaluation procedures, in particular the lack of involvement of local districts, and the small number of teachers eligible for the awards. Although the program was upheld in Circuit Court and the instruments (subject area tests and FPMS) in state administrative hearings, it was abolished and replaced by a career ladder plan.

A few local education agencies are utilizing traditional merit pay plans. Further information can be obtained from the following districts:

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[11] Ibid., p. 38.

[12] Ibid.

Ladue School District (MO)	- has operated a continuous merit pay plan since 1931.
Weber School District (Ogden, UT)	- bases individual merit awards for teachers solely on classroom student test scores.
Seiling Public Schools (OK)	- bases individual merit awards for teachers solely on classroom student test scores.
Dallas Independent School District (TX)	- provides outstanding school performance awards for the top 25% of schools scoring above student achievement expectancy levels.[13]

Career Ladders

In response to the opposition of educators to merit pay as well as the need to discover a means to assure the retention of outstanding teachers, many states -- like Florida -- have turned their attention to career ladder plans. These offer a means to recognize effective teachers, to provide an alternative professional growth path, and to enable teachers to share their expertise with their colleagues.

Findings. In reviewing the development and implementation of career ladder programs by states or local districts, six components of the process have been identified:

- definition of the problem by assessing the needs of educational programs (e.g., recruitment, retention, certification, working conditions, career options, staff development);
- acquisition of political leadership and collaboration of persons knowledgeable about teaching and evaluation (e.g., governors and their staffs, staff from the department of education, members of the higher education community, business leaders, legislators, and teachers);

[13] Ibid., p. 3.

- development of the structure of a plan (e.g., issues related to eligibility, number of levels on the career ladder or path, requirements for moving from one level to another, amount of incentive supplement, duties of teachers at each level, provisions for staff development, role of local school system);
- development and field testing of an evaluation system;
- implementation; and
- review and revision.[14]

In addition to these six components, several variables that appear to be vital to a program's success have also been delineated. Among these are:

- leadership by governors, legislators, and state department personnel as well as participation of teachers and administrators;
- adequate time to develop a fair and effective evaluation system;
- adequate funding to develop and implement the system, to assure the availability of incentive supplements for all those who qualify, and to study the system's effectiveness;
- realistic timelines;
- frequent and direct communication with teachers, principals, and superintendents; and
- flexibility to meet unanticipated problems.[15]

Although it is too early to assess the success of career ladder programs in attracting and retaining competent teachers and effecting school improvement, some general observations have been made:

- Plans show considerable variation regarding who controls the program. Some plans have clearly defined state standards; others allow considerable local autonomy.

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[14]Lynn Cornett and Karen Weeks, "Planning Career Ladders: Lessons from the States" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, 1985), pp. 1-5.

[15]Ibid., p. 5.

- States are proceeding cautiously, lengthening the time for implementation, phasing in programs, or experimenting with pilot projects.

- The career ladder movement has clearly stimulated change in procedures for evaluating the classroom performance of teachers.

- School districts and teachers are volunteering to participate in the career ladder programs, often in greater numbers than anticipated.

- Teachers and other educators are involved in planning, analyzing, and revising career ladder programs.

- Incentive programs are expensive and the total costs can be difficult to predict. If the programs are to achieve their objectives, funding over the long term must be assured.

- Formal program evaluation of incentive programs is limited to date. It is important that plans be evaluated by outside persons.[16]

Programs. Career ladder programs have been the most popular performance-based incentive programs adopted by states. For that reason, initiatives in five states are described in this section. Tennessee's program, which has been in existence for the longest period of time, receives the most attention. However, the new program in Florida is addressed briefly, as it reflects learnings from its previous experience, and pilot projects in South Carolina, North Carolina, and Kentucky are mentioned for reasons offered in the text.

The Career Ladder Program in Tennessee has been in existence since the 1984-85 school year. Implemented in one year, it is an example of a centralized approach to attracting, retaining, and rewarding competent teachers for outstanding performance. Tying certification to a five-tier career ladder, it requires the participation of all beginning teachers and offers optional participation to certified teachers. Unlike many other plans, it also has a similar program for administrators.

The five levels of the career ladder consist of a Probationary certificate, an Apprentice certificate, Career Level I certificate, Career Level II certificate, and Career Level III certificate. Each level requires specific achievements on the part of the teacher, includes evaluative devices, and may offer remunerative rewards (see Appendix A).

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[16]Lynn Cornett and Karen Weeks, "Career Ladder Plans: Trends and Emerging Issues - 1985" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, 1985), pp. 8-9.

Evaluation criteria are based on the following domains of competence: "prepares for instruction effectively; uses teaching strategies and procedures appropriate to the content, objectives, and learners; uses evaluation to improve instruction; manages classroom activities effectively; establishes and maintains a professional leadership role; and communicates effectively."[17] Six data sources are utilized, with each domain to be evaluated by at least two sources. Among these are: classroom observation, a dialogue (a teacher interview with an opportunity to share a portfolio of teacher-developed materials related to the domains of competence), a peer questionnaire, a student questionnaire, a superordinate (principal) questionnaire, and a written test.[18]

Although a formal evaluation of the program will not be undertaken until the end of the fifth year of implementation, staff at the Tennessee Department of Education cited three benefits of the program. First, the number of staff development activities that have been conducted and the number of teachers participating in those activities have increased. Second, a positive change in the attitudes of teachers toward teaching, evaluation, and staff development has been noted. Finally, by providing a framework for evaluation, supervisors and principals in some rural districts that did not have sophisticated systems in place are evaluating teaching behaviors in the classroom and planning staff development activities for their schools or districts.

Over the last two and one-half years, problems with communication and evaluation have caused some alterations in practice and procedures. Instigated by communication difficulties in the early stages of implementation, a team from the Department of Education traveled to the schools to explain the intricacies of the program -- particularly its evaluative aspects -- and to obtain feedback from teachers. Analysis of the data gained was utilized in revising the program (e.g., alterations were made in the questionnaire principals used to evaluate teachers; a dialogue between evaluator and teacher was substituted for the interview and presentation of a portfolio of planning materials; all evaluative instruments were made public; sessions are now held with teachers after each visit of an evaluator). To alleviate further problems, more attention is being given to notifying all teachers and administrators of changes in the program.[19]

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[17]Carol Furtwengler, "Tennessee's Career Ladder Plan: They Said It Couldn't Be Done!" Educational Leadership, 43 (November 1985), p. 52.

[18]Carol Furtwengler, "Tennessee's Career Ladder Plan: They Said It Couldn't Be Done!" Educational Leadership, 43 (November 1985), pp. 50-56.

[19]Melinda Taylor, telephone conversation, 4 February 1987 and Lynn Cornett, "Implementing Plans: Success and Change" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, March 1986), pp. 2-3 and 7.

Three additional learnings can be gleaned from the experience in Tennessee. The determination of who will be included in the program and the definition of teacher (e.g., teachers, librarians, guidance counselors) should occur before the plan is developed. If states wish to apply a "fast track" method for individuals who were teaching in the state at the time of implementation, they should consider the creation of a phase-in period. Otherwise, they will be deluged with applicants and the lack of staff to deal with them. Finally, no changes should be made in the program for at least one year. Mid-year alterations cause confusion.[20]

The Ray Stewart Achievement Program for Teachers, passed by the Florida legislature in 1986, will be implemented in the 1987-88 school year. Moving from a more traditional merit pay plan to a career ladder program, the state has instituted a three-tier program. Career Level II teachers are expected to receive $2,500 in additional pay.

To advance on the ladder teachers must have four years of teaching experience, achieve a score within a specific range relative to all state teachers or their composite district level on a subject matter test, and perform well in a classroom observation by their supervisor and a peer. State testing in subject areas remains, but classroom performance will be assessed using locally determined instruments. The district's evaluation plan must be negotiated locally, then approved by the state department of education.

Responding to administrative problems with the initial merit pay program, two aspects have been altered. Caps for eligibility have been levied for the first year (i.e., 45% of the teachers who pass the statewide test will be eligible for Career Level II; 25%, for Career Level III) to ameliorate earlier processing difficulties at the state department. The 1986-87 school year has been dedicated to planning, with implementation in 1987-88[21].

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[20]Lynn Cornett, "Implementing Plans: Success and Change" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, March 1986), p. 7.

[21]Lynn Cornett, "Implementing Plans: Success and Change" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, 1986), p. 5 and Lynn Cornett, "1986 -- Incentive Programs for Teachers and Administrators: How Are They Doing?" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, 1986), pp. 4, 5, and 13.

Three other states have implemented pilot career ladder projects in their states that might yield valuable information. **South Carolina** conducted pilot projects using three different models (career ladder, a performance bonus model in which teachers receive incentives based on measures such as student achievement, and a school-based model in which all teachers in school receive bonuses). **North Carolina** initiated 16 pilot projects in 1985-86. Although initial legislation required one-year pilot projects, recent legislative action extended that period to three or four years. **Kentucky** implemented pilot projects this year and intends to develop a statewide program, based upon learnings from the pilot projects, in 1988.[22]

Other Reward Systems

As the forum participants stated, nonmonetary rewards are also effective. Among these are: public recognition, peer recognition, (e.g., designation of "master teachers" as successful professionals), restructuring of the work environment (e.g., opportunities for released time, part-time work, an increased role in decision making), and schoolwide recognition (e.g., the U.S. Department of Education's Secondary School Recognition Program).[23] The latter strategy, recognition of schools, is cited in the literature as a means to avoid the lowering of morale created by acknowledging efforts of individuals. However, no research findings support the effectiveness of either strategy over the other.

During the forum, participants voiced requests for the basic foundations for educational excellence (e.g., safety in the schools, an adequate supply of materials and equipment), intrinsic rewards (e.g., increased teacher participation in decision making, better supervision and coaching, more support personnel), and extrinsic rewards. It is important to note that the provision of all three may be the answer to strengthening teacher quality.

Student/Teacher Ratio

Since the late 1970's, various studies have been conducted regarding class size. Work by Wright, Shapson, Eason, and FitzGerald found that students in smaller classes had more questions addressed to them individually and

[22]Lynn M. Cornett, "Trends and Emerging Issues in Career Ladder Plans," Educational Leadership, 43 (November 1985), p. 8.

[23]Steven M. Jung, Guidelines for Evaluating Teacher Incentive Systems (Denver: Education Commission of the States, 1984), p. 12.

participated more fully in classroom activities. Some evidence also indicated that student attitudes might be more positive in smaller classes.[24]

Meta analyses conducted by Glass and Smith in 1979 and 1980 reviewed research on the relationship between class size and achievement, classroom processes, teacher satisfaction, and pupil affect. The first revealed that "very small achievement advantages are expected when class size is reduced below 20."[25] In addition, they discovered that the effects were most notable for children 12 years old and under, least apparent for pupils 18 years old or over.[26] Substantiating the findings of Wright et al., the second noted that smaller classes, particularly those with less than 20 students, were associated with specific teaching processes (i.e., individualization, student participation, and quality of instruction) and more positive attitudes on the part of both students and teachers.[27]

A more recent investigation conducted in Australia (1986) revealed that several teaching practice variables differed with the size of classes and affected student achievement. The relevant variables were:

- Teachers' grouping practices (i.e., in smaller classes teachers taught the whole class more often and classes had higher achievement; in larger classes, teachers tended to form more groups, and these classes had lower achievement).

- The frequency and type of interaction with students (i.e., smaller classes had fewer interactions -- in particular, student questions to teachers and nonacademic procedural instructions made by teachers --and higher achievement than larger classes).

- Some aspects of teachers' questioning behavior (i.e., teachers in smaller classes probed more frequently and waited for answers for a longer period of time than teachers in larger classes).

- The amount of homework given (i.e., students in smaller classes had more homework than counterparts in larger classes and had higher achievement).

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[24]Nikola Filby, Leonard Cahen, Gail McCutcheon, and Diane Kyle, What Happens in Smaller Classes? (San Francisco: Far West Laboratory for Educational Research and Development, 1980), p. 2.

[25]Gene V. Glass and Mary Lee Smith, Meta-Analysis of Research on the Relationship of Class Size and Achievement (San Francisco: Far West Laboratory for Educational Research and Development, 1978), p. ii.

[26]Mary Lee Smith and Gene V. Glass, Relationship of Class-Size to Classroom Processes, Teacher Satisfaction and Pupil Affect: A Meta-Analysis (San Francisco: Far West Laboratory for Educational Research and Development, 1979), p. ii.

[27]Nikola Filby, Leonard Cahen, Gail McCutcheon, and Diane Kyle, What Happens in Smaller Classes? (San Francisco: Far West Laboratory for Educational Research and Development, 1980), p. 3.

- Noise level tolerated during lessons (i.e., smaller classes were less noisy and had higher achievement).

However, two of the general classroom processes found to be potentially important to achievement by Glass et al., specifically student engagement rate and individualization, were not found to be of significance in this study.[28]

Two other recent studies substantiate the greater effectiveness of a less than 20:1 pupil/teacher ratio at the kindergarten and first grade level. In 1985, researchers in Chicago found that the strongest influence on the achievement of kindergarten students from primarily low-income families "appeared to be the pupil/teacher ratio." Students in classrooms with pupil/teacher ratios of approximately 16:1 "achieved at or above national norms on a standardized achievement test."[29]

Similar findings were reported by Project Prime Time in Indiana in 1981-83. The General Assembly appropriated funds to drop the pupil/teacher ratio to 14:1 in 24 kindergarten, first, and second grade classrooms in cities, small towns, and rural areas across the state. Outcomes of the two-year pilot project were:

- "Students in the classrooms with pupil/teacher ratios of 14:1 scored higher on standardized tests than students in larger classes....
- Students in smaller classes had fewer behavioral problems than their counterparts in larger classes....
- Teachers of smaller classes reported that they were more productive and efficient than they had been when they were teaching larger classes."[30]

From this brief review, it appears that smaller class size -- particularly in the early primary grades -- is linked to student achievement and engenders more positive attitudes on the part of students and teachers. However, instructional practices also contribute to desired outcomes.

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[28]Sid Bourke, "How Small is Better: Some Relationships Between Class Size, Teaching Practices, and Student Achievement," American Educational Research Journal, 23 (Winter 1986), pp. 566-568.

[29]Helen Pate Bain and C. M. Achilles, "Interesting Developments on Class Size," Phi Delta Kappan, 67 (May 1986), p. 663.

[30]Ibid.

In their recommendations, the participants in the Puerto Rico Policy Forum addressed both preservice and staff development programs. Therefore, this section is divided into two parts. The first addresses research and practices pertaining to preservice education; the second, staff development.

Preservice Education

Within the past few months two reports, A Nation Prepared: Teachers for the 21st Century and Tomorrow's Teachers: A Report of the Holmes Group, have been released. Despite the difference in preparers -- one written by a blue ribbon panel, the other by education deans from some of the nation's leading research universities, the recommendations of the two groups regarding preservice education are quite similar (see Table 1).

Action has been taken by both groups to follow through with their recommendations. The Carnegie Foundation has given a grant to Stanford University to draft assessment instruments that may be utilized by the proposed National Board for Professional Teaching Standards. The Holmes Group, after extending membership to 123 universities across the nation, is comprised of 94 that have agreed to join and work toward the fulfillment of its recommendations. Its Executive Board has committed itself to writing a report, with the assistance of administrators and teachers, on the changes needed in public schools. In addition, many institutions are developing multi-year plans (e.g., shifting teacher education to the graduate level or encouraging minority students to enroll) or joining local education agencies to create professional development schools that are modeled after teaching hospitals.[31]

Table 1: Comparison of Recommendations of Carnegie and Holmes Reports Pertaining to Preservice Education of Teachers

Category of Recommendation	A Nation Prepared: Teachers for the 21st Century (Carnegie Report)[1]	Tomorrow's Teachers: A Report of the Holmes Group (Holmes Group)[2]
Fifth Year of Study	Require bachelors degree in the arts and sciences as prerequisite of professional study of teaching. Require a master's degree for all teachers.	Make education of teachers more solid intellectually by pursuing an undergraduate major in an academic subject other than education, receive their professional training in a fifth year master's degree program, and complete a year-long supervised internship.

[31]Maggie Hume, "Holmes Group Turns from Teachers to Schools in New Reform Plans," Educational Daily 20 (February 3, 1987), pp. 1-2.

Table 1: Comparison of Recommendations of Carnegie and Holmes Reports Pertaining to Preservice Education of Teachers (con't.)

Category of Recommendation	A Nation Prepared: Teachers for the 21st Century (Carnegie Report)[1]	Tomorrow's Teachers: A Report of the Holmes Group (Holmes Group)[2]
Curriculum Revision	Develop new professional curriculum in graduate schools of education leading to Master in Teaching degree based on systematic knowledge of teaching and including internships and residencies in schools.	Revise undergraduate curriculum in arts and sciences. Organize academic course requirements, including involvement of other departments in institutions of higher education. Need advanced studies in pedagogy (focus on human cognition, teaching and learning, and teaching), teachers' learning, assessment of professional performance, and evaluation of instruction.
Coordination	Connect institutions of higher education with schools through the development of Professional Development Schools.	Need coherent program in schools and institutions of higher education that will support advanced study. Create Professional Development Schools, similar to teaching hospitals, in which prospective teachers would receive their clinical training.
Certification	Create a National Board for Professional Teaching Standards to establish high standards for what teachers need to know and to be able to do, and to certify teachers who meet that standard.	Create three-tier system of teacher licensing: • Instructor - has BA degree, without year of supervised practice and study in pedagogy and human learning; has passed exams (see evaluation) • Professional Teacher - has MA in teaching; completed year of supervised practice; passed exams

Table 1: Comparison of Recommendations of Carnegie and Holmes Reports Pertaining to Preservice Education of Teachers (con't.)

Category of Recommendation	A Nation Prepared: Teachers for the 21st Century (Carnegie Report)[1]	Tomorrow's Teachers: A Report of the Holmes Group (Holmes Group)[2]
Certification (cont'd.)		• Career Professional - has completed all of the above plus further specialized study
Evaluation/ Assessment		Use multiple evaluations • test basic mastery of writing and speaking • demonstrate mastery of subject, skill in lesson planning, and instructional delivery prior to clinical internship • evaluate variety of teaching styles during internship -- including own -- and present analytic evidence as part of professional portfolio for advancement
Differential Staffing	Restructure teaching force and introduce new category of Lead Teachers with proven ability to provide active leadership in redesign of schools and in helping colleagues to uphold high standards of learning and teaching.	Recognize differences in teachers' knowledge, skill, and commitment in their education, certification, and work.

[1]Task Force on Teaching as a Profession, A Nation Prepared: Teachers for the 21st Century (Washington, DC: Carnegie Forum on Education and the Economy), pp. 55-56.

[2]The Holmes Group, Tomorrow's Teachers: A Report of the Holmes Group (East Lansing: The Holmes Group, Inc.), pp. 65-66.

Although it is too early to judge the outcomes of efforts spawned by the Carnegie and Holmes reports, there are other notable efforts already underway that address some of the proposals put forth by them. Among these are preservice education projects sponsored by the U.S. Department of Education and teacher induction programs. Most involve collaborative ventures between public school systems, institutions of higher education, state departments of education, and/or teacher organizations.

Office of Educational Research and Improvement (OERI) Projects

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In 1985, OERI funded 29 projects in teacher education which were based upon relevant research. All prime contractors are institutions of higher education (IHE), but each must collaborate with one or more local education agencies and must involve interdepartmental and interdisciplinary activity at the IHE. Each must also evaluate their programs.

Brief descriptions of some of the projects are contained in Appendix B. A few of them link the three actors of interest to Puerto Rico (the state education agency, institutions of higher education, and local districts). Three of those projects are highlighted in the next few paragraphs. Although developed prior to the publication of the national reports, all of these address recommendations of the Holmes and Carnegie reports -- specifically those related to coordination, professional development schools, and internships.

"The Baruch College-New York City Teaching Internship," growing out of the lack of certified individuals available to teach in New York City Public Schools, establishes an internship for college graduates with baccalaureate degrees in areas other than education. These students are currently first-year elementary and early childhood teachers in the New York City Public Schools who have temporary certification. Collaborators include representatives from the college's School of Education and School of Liberal Arts and Sciences, the United Federation of Teachers, the New York City Board of Education, and the New York State Department of Education.

The program being developed is based on an analysis of current knowledge about effective teaching, the needs of beginning teachers, and the New York City/State context for teaching. It will include both seminar and field experiences; will be taught by experienced, effective classroom teachers (mentors) and college faculty; will be appropriate for first year of a graduate professional degree program; and will include a provision for continuing revision based on new research and evaluation.

With a major concern for institutionalizing a continuing means of collaboration beyond the life of the project, several steps have been taken. First, mentor teachers are included as adjunct members of the Baruch faculty as part of the team delivering the internship program. Second, institutionalized time for full-time college faculty to be in schools where mentors and interns are teaching has been built into delivery of the program. Finally, a community district superintendent will be invited to sit on the program board of the School of Education.

The project at the University of Kansas, **"Development and Implementation of the Kansas Assistance-Assessment Protocol for Beginning Teachers,"** is aimed at strengthening the induction and evaluation of first-year teachers in full-time employment in the state. Funded jointly by OERI and the Kansas State Department of Education (KSDE), it is truly a collaborative venture. Staff at the university proceeds with actions and decisions regarding procedural matters, while decisions involving policy matters are made jointly and cooperatively with KSDE. Its Advisory Committee -- representatives from higher education and school boards, administrators, and teachers -- is an active body that deals with critical issues and makes recommendations to the State Board of Education. Support and collaboration from these entities and local school districts is viewed by the project as vital to the implementation of this change.

In the past year, the project reviewed the literature for characteristics of effective teaching behaviors; prepared a listing of 338 behaviors; surveyed 1,200 beginning teachers, master teachers, and building administrators in local school districts regarding the appropriateness of those behaviors to job effectiveness; and reduced the listing to 141 behaviors. These statements of behavior were transformed into an assessment format that was field tested in the fall of 1986. A version of the protocol is in place, but evaluation and revision is anticipated.

The **"Clinical Classroom Project"** at the University of Maryland is establishing a cadre of clinical classrooms in regular K-12 schools or colleges of education in three locations in the state. Partners in this enterprise, with the university, are selected institutions of higher education in the state, key local education agencies, and the Maryland State Department of Education. These classrooms will be used as sites for preservice teachers, beginning teachers, and teacher education faculty to observe and participate in research-based teaching. In addition, research on teacher education and the preparation of research-based training materials (i.e., videotapes, simulations, and job aides) will be conducted. Activities are based on research in classroom management, mastery teaching, and cooperative learning.

Teacher Induction Programs

Recognizing the need for continued training and support beyond the undergraduate experience, teacher induction models have been developed by educators from state departments of education, universities, school districts, and/or educational organizations. Like many of the OERI projects, these models address the Holmes and Carnegie recommendations regarding coordination between IHEs and schools, internships, a tiered system of certification, stronger evaluative methods, and/or differential staffing.

Teacher induction programs provide opportunities to recognize effective teachers and to assist beginning teachers through the first critical years of teaching. Mentoring is usually a component of the services provided, but often these programs are also tied to certification.

Findings. Most programs aim to improve the performance of beginning teachers; to retain promising individuals in the profession, particularly in the first three years of teaching and hopefully beyond; to promote the personal and professional well-being of beginning teachers; and to satisfy mandated requirements related to induction and/or certification. However, as work of the Research and Development Center for Teacher Education has revealed, there are significant limitations or concerns to be considered when creating a program:

- In order to improve teaching performance, ongoing support over time (not just one-shot meetings) must be provided and a common vision of effective teaching performance must be determined.
- An effective teacher induction program will not overcome overcrowded conditions, unconducive school climate, overloaded schedules (e.g., too many preparations), or misplaced teachers (i.e., those assigned outside of their discipline).
- An induction program may not be successful, as it addresses only one (initial entry) of the multitude of reasons why beginning teachers exit the profession (e.g., salary levels, working conditions, lack of status, absence of opportunities for professional growth).
- New teachers need to be supported in ways that foster their development and improvement, not just be made to feel better regardless of their performance.
- It is easy to forget the intent of a program when trying to fulfill the technical requirements of its mandate.

- As mandates focus on the achievement of minimum criteria, there is the danger that those minimum criteria will become the total program.[32]

Programs. Two programs, which have been in existence for five years, are highlighted in this section. The Oklahoma Entry-Year Assistance Program, created by the legislature in 1980, is a statewide program tied to teacher certification. Actors include beginning teachers and staff from the state department of education, universities, and local school districts. The Intern-Intervention Program in the Toledo (OH) Public Schools was created and implemented by management of the school district and the Toledo Federation of Teachers (TFT). Although there is no tie to certification, evaluation of the beginning teacher's performance is central to the consulting teacher's responsibility.

Established by House Bill 1706 -- a comprehensive piece of legislation dealing with teacher education and certification, the **Oklahoma Entry-Year Assistance Program** has been operating since the 1981-82 school year. It is a process whereby three committee members (a classroom teacher/consultant, a school administrator, and an educator from an institute of higher education) provide guidance and assistance in the first and/or second year of a beginning teacher's career. Each committee member must independently observe and evaluate the teacher three times per year. The committee itself must convene meetings with the teacher three times per year. The consultant teacher, who receives a $500 stipend, spends 72 hours per year in consultation and observation with the entry-year teacher. At the end of the year, the committee must recommend that the teacher be licensed or participate in the program for a second year. At the end of the second year, the committee must recommend the teacher for certification or noncertification. If the recommendation is for certification, it must also suggest a staff development program for the teacher based upon the members' observations.[33]

The program is overseen by the State Department of Education, which visits every district, monitors progress of the committees, and reviews and retains all paperwork. The local district designates an administrator and teacher consultant to each committee. It also has the authority to reject the university's appointee.

As to its effectiveness, Ramona Paul, Administrator of the Entry-Year Program, indicated that the governor, the legislature, and key participants have all been supportive. When the governor

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[32]Leslie Huling-Austin, "Teacher Induction Programs: What Is and Isn't Reasonable to Expect," R&CDTE Review, 3 (Fall 1985), pp. 1, 2, and 5.

[33]Oklahoma State Department of Education, Oklahoma Teacher Reform Act of 1980 (Oklahoma City: Oklahoma State Department of Education, 1986), pp. 1-12.

recently introduced his budget, he did not tamper with funding for the program despite the depressed economy within the state. In January 1986, an evaluation by a legislative task force had no recommendations for change. For entry-year teachers, it offers a much-welcomed support system. From the local and state perspectives, it has provided a mechanism to deal with problems when they arise and engendered alterations in curriculum and teaching methods. For institutions of higher education, it has afforded an opportunity to leave their "ivory towers" and work in school districts. For the three committee members, it has meant an increased appreciation and understanding of each other's roles and responsibilities.

Its effect on retaining beginning teachers has not been assessed. However, a very small number of entry-year teachers have failed to achieve certification. Paul attributes that not only to her program, but also to better screening processes at the universities. Minimum requirements have been upgraded. Students must be interviewed by faculty, have 45 hours of field experience, pass a substantive examination in their curricular area of expertise, and participate in a longer period of student teaching. The pivotal point appears to be the substantive examination. Approximately 25% of the prospective teachers fail to pass that test and switch to another major.

Toledo's **Intern-Intervention Program** utilizes outstanding, experienced teachers to train and evaluate beginning teachers as well as to assist experienced teachers whose teaching skills are critically weak. Teacher consultants are selected on the basis of at least five years of outstanding teaching experience in the system -- a fact that must be substantiated by confidential references from their principals, building representatives of the Toledo Federation of Teachers, and three classroom teachers -- and a demonstration of ability in written and oral expression. Trained in various specializations, they agree to serve for three years and then return to their original classrooms. Like the teacher consultants in Oklahoma, they receive stipends to compensate for the additional time required by their new role.

Teaching techniques, classroom management skills, and content knowledge are the areas stressed in the Intern Program. Evaluation of the beginning teacher is a "process of continuous goal-setting, based on detailed observations and follow-up conferences, during which an intern and a consultant can analyze the novice's teaching behaviors and set practical goals."[34]

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[34]Cheryl M. Waters and Terry L. Wyatt, "Toledo's Internship: The Teacher's Role in Excellence," Phi Delta Kappan, 66 (January 1985), p. 366.

The governing body of the Intern Program is a nine-member panel consisting of five TFT appointees and four individuals named by the school district's personnel office. The TFT president and an Assistant Superintendent in the district alternately chair the panel. The panel monitors the work of the teacher consultants, accepts or rejects the recommendations of the consulting teachers at the end of each evaluation period, and asks interns to critique both the program as a whole and the services of the consultants who assisted them.

The goal of the Intervention Program is to improve the classroom performance of a specific teacher to a level acceptable to the district. Detailed processes have been developed for referral to the program, termination of the services of consulting teachers, and disposition of teachers whose teaching performance does not improve. Of the 22 experienced teachers in the program in November 1985, 12 were still participating in the program, five were restored to satisfactory levels of performance, one was dismissed, two chose to leave teaching, and two were granted disability retirements by the state.[35]

Professional Development

The final problem addressed by participants at the forum was the lack of continuing education and inservice training for all teachers on the island. Aware that the improvement of working conditions, preservice education, and the induction of beginning teachers would lead to strengthened teacher quality, they were also cognizant of the fact that the provision of appropriate staff development activities would ensure the maintenance of a knowledgeable and effective teaching staff.

In this section, findings related to the goals, context, attributes, and phases of effective staff development programs will be presented. This narrative is followed by information regarding a staff development program in a large, urban school district. Finally, a review of the literature regarding teacher mentor programs -- a staff development strategy of particular interest to the forum participants -- and a description of a statewide program are offered.

Staff Development Programs

Findings. As presented in the literature, the primary goal of staff development is improvement in the teaching/learning process. The literature also indicates that effective staff development is not a one-shot process, but a continuous flow of efforts aimed at

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[35] Ibid., pp. 365-67.

developing a professional, growth-oriented climate in schools.[36]

As an activity, it does not take place in a vacuum. Goals and content are inextricably tied to training, and all three are contained within an environmental context. Improvement in teaching and learning through training in specific content areas is more likely to occur if administrative support comes from principals and superintendents, and if teachers are willing and able to share and experiment with instructional techniques in their classrooms.[37]

A review of the literature reveals several attributes of successful professional development programs (see Table 2). Most critical is the fact that staff development is embedded in the philosophy and organizational structure of schools and districts -- as evidenced in one way by comprehensive, long-range planning and in another by district-level inservice coordinating committees or school-based planning teams. In addition, participatory decision making in the conception and assessment of professional development activities; the development of clear, specific goals and objectives; the use of formative and summative evaluation; support from administrators, central office personnel, and school boards; inclusion of experientially based experiences in real or simulated settings with time for reflection; emphasis on intrinsic rewards; and provision for follow-up assistance are vital to making a program work.[38]

The importance of the last attribute, follow-up assistance, can not be understated. Without experimentation in the classroom -- with the assistance and/or coaching of a colleague, administrator, or trainer -- little transfer of knowledge will occur.[39]

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[36]Susan Loucks-Horsley, Catherine K. Harding, Margaret A. Arbuckle, Lynn B. Murray, Cynthia Dubea, and Martha K. Williams, Continuing to Learn: A Guidebook for Teacher Development, (Andover, MA, The Regional Laboratory for Educational Improvement of the Northeast and Islands, 1987), p. 7.

[37]Georgea M. Sparks, "Synthesis of Research on Staff Development for Effective Teaching," Educational Leadership 41 (November 1983), pp. 65-66.

[38]Susan Loucks-Horsley, Catherine K. Harding, Margaret A. Arbuckle, Lynn B. Murray, Cynthia Dubea, and Martha K. Williams, Continuing to Learn: A Guidebook for Teacher Development, (Andover, MA, The Regional Laboratory for Educational Improvement of the Northeast and Islands, 1987), pp. 7-17; Deborah Burnett Strother, "Inservice Education," Practical Applications of Research, 5 (March 1983), pp. 1-4; and Fred H. Wood, Steven R. Thompson, and Sister Frances Russell, "Designing Effective Staff Development Programs," in Staff Development/Organization Development, ed. by Betty Dillon-Peterson (Alexandria: Association for Supervision and Curriculum Development, 1981), pp. 88-90.

[39]Deborah Burnett Strother, "Inservice Education," Practical Applications of Research 5 (March 1983), p. 2.

Two other attributes received emphasis from one or two of the researchers. Both Wood, et al., and Loucks-Horsley and her associates state that to be successful programs must be conducted in a supportive climate with norms of collegiality and collaboration. The most effective schools and school improvement activities encourage and provide opportunities for collaboration and dialogue, opportunities for experimentation, and support in times of success or failure.[40] In addition, Wood, et al., -- and undoubtedly this was a basic assumption of others -- believe that "effective inservice education programs must be based upon research, theory, and the best education practice."[41]

Although staff development is not a step-by-step process, the literature often reflects phases or stages present in effective programs. Arrayed in Table 2 is a composite of phases from the literature with corresponding attributes, many identified in the previous section.

Although agreement on these five stages is not universal, it appears to be commonly accepted that active practice and ongoing opportunities for feedback are essential to successful programs. Wood, et al., believe the readiness stage is the most important as well as the most overlooked. Unless a supportive school climate and commitment by participants exist, change will not occur.

There are a variety of vehicles through which staff development may occur. Loucks-Horsley and her associates have identified alternative strategies and structures from which educators can choose to round out or improve a staff development program. Among the strategies -- ways that activities may be conducted -- are peer coaching, mentoring, clinical supervision, implementation of innovative practices, action research, and institutes. The structures -- ways of organizing and supporting teacher development activities -- are partnerships, teacher centers, training of trainers programs, networks, and individually guided professional development.

As participants in the forum expressed interest in teacher mentor programs, an in-depth discussion of that staff development strategy is provided after the following description of staff development efforts in the Jefferson County (CO) Public Schools.

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[40]Susan Loucks-Horsley, Catherine K. Harding, Margaret A. Arbuckle, Lynn B. Murray, Cynthia Dubea, and Martha K. Williams, Continuing to Learn: A Guidebook for Teacher Development, (Andover, MA, The Regional Laboratory for Educational Improvement of the Northeast and Islands, 1987), pp. 7-9.

[41]Fred H. Wood, Steven R. Thompson, and Sister Frances Russell, "Designing Effective Staff Development Programs," in Staff Development/Organization Development, ed. by Betty Dillon-Peterson (Alexandria: Association for Supervision and Curriculum Development, 1981), p. 63.

Table 2: Composite of Phases from the Literature with Corresponding Attributes

Phases	Attributes
Readiness	- development of a school climate that supports change - commitment by individuals or group to change
Orientation and Preparation	- involvement of teachers in planning - creation of clearly stated expectations - identification of possible solutions to problems - development of specific plans for staff development - preparation through presentation of theory - enactment of teaching strategy or skill with discussion of application - micro-teaching, role-playing, or peer observation under simulated conditions or in classroom with coaching
Implementation	- implementation in classroom with follow-up assistance, continuous assessment, and reinforcement of efforts - coaching for application and ongoing opportunities for feedback
Refinement	- refinement of teaching behavior achieved through opportunities for self-observation, individualization of practice, and opportunities for choice
Maintenance and Institutionalization	- provision of organizational support, incorporation of staff development in philosophy and structure of school, automatic attention to training new or reassigned teachers, offering refresher activities, and ordering necessary supplies and materials to conduct staff development)[42]

[42]Georgea M. Sparks, "Synthesis of Research on Staff Development for Effective Teaching," Educational Leadership 41 (November 1983), pp. 65-66; Deborah Burnett Strother, "Inservice Education," Practical Applications of Research 5 (March 1983), p. 2; Susan Loucks-Horsley, Catherine K. Harding, Margaret A. Arbuckle, Lynn B. Murray, Cynthia Dubea, and Martha K. Williams, Continuing to Learn: A Guidebook for Teacher Development (Andover, MA, The Regional Laboratory for Educational Improvement of the Northeast and

This system's program, centered in the Jefferson County Staff Development Academy, was selected as it has implemented several of the strategies and structures suggested by Loucks-Horsley and her associates. Therefore, it offers one-stop access to further data regarding a variety of techniques.

Programs. The Jefferson County Staff Development Academy was established 10 years ago by the Jeffco Board of Education. It is "built upon [the] assumption that education for students will be enhanced when the knowledge and skills of all staff members are continuously growing."[43]

Attending to the attributes of successful programs, staff development is embedded in the philosophy and organizational structure of the district (e.g., the existence of the Academy, a number of registrations for activities each year which exceeds the number of administrators, teachers, and other full-time staff). Academy administrators work with curriculum program managers, principals, and teacher and administrator groups to plan, organize, and evaluate staff development experiences in three areas: curriculum implementation, effective instruction, and improvement of the quality of work life. More than 400 district employees have been trained to serve as staff development trainers and facilitators.

The Academy provides a wide range of programs to meet the needs of the district. Among these are college degree programs and courses at convenient in-district locations; inservice courses related to curriculum implementation and individual professional growth; priority inservice to support program and/or curriculum implementation; staff development leadership training; a Management Academy which enables certified and classified administrators to upgrade their management skills; specialized group programs that address the common needs of groups of individuals (new teachers, "master" teachers, head custodians); and school-based staff development that provides support to principals and their staffs in designing and implementing activities that address instructional and organizational needs of a school.

Islands, 1987), pp. 7-9; Fred H. Wood, Steven R. Thompson, and Sister Frances Russell, "Designing Effective Staff Development Programs," in Staff Development/Organization Development, ed. by Betty Dillon-Peterson (Alexandria: Association for Supervision and Curriculum Development, 1981), p. 63.

[43]Department of Communications Services, Staff Development Program, (Lakewood, CO: Jefferson County Public Schools, 1985), p. 2.

Mentor Teacher Programs

One of the staff development strategies employed by the Jefferson County Staff Development Academy and other local school districts is mentoring. Two states (California and Washington) have also implemented mentor teacher programs. These programs offer a means to recognize effective teachers as well as a vehicle for staff development.

Findings. A review of the literature and research as well as conversations with program managers, researchers, and practitioners yields a list of eight variables -- not unlike those previously cited for career ladder programs -- important to the development and implementation of an effective mentor teacher program. Among these are:

- adequate timelines for developing and implementing plans;
- participation of teachers, administrators, educational organizations, and community members in planning and implementing programs;
- development of a fair, and perceived as fair, selection process with systematic procedures that are clearly articulated and adhered to in practice;
- provision of training for mentor teachers to enable them to effectively carry out their new role (e.g., knowledge of adult learning theory, team building, and the role of a change agent; skills in group leadership and facilitation, group problem-solving, observation and conferencing, role modeling and demonstration, networking and collaboration, coaching, and counseling);
- provision of ongoing administrative support;
- availability of sufficient funding to cover the costs inherent in the program as well as to study its effectiveness;
- time built into the schedules of beginning teachers and mentors that allows each to observe the other teaching and to confer with one another after observations; and
- assignment of beginning teacher to a mentor located in the same building and, if possible, teaching the same subject/grade.

Despite the lack of extensive evaluative data on the effectiveness of mentor teacher programs to meet their goals, two studies of informal mentoring relationships have documented the benefits of such programs to both protege and mentor. Fagan and Walter discovered that proteges reported -- in order of importance -- that their self-confidence had increased, their mentor acted as a sounding board and supporter for creativity, their understanding of the school's administration had been heightened, their knowledge of the technical aspects of their jobs had been increased, and their understanding of how to work collaboratively and cooperatively with other people had been enhanced.[44] A second study by Arin-Krupp substantiated some of Fagan and Walter's findings regarding the advantages to proteges (e.g., increased self-understanding, raised knowledge of how to interact with others) as well as introducing the value of friendship. In addition to assessing outcomes to proteges, the study elicited the following benefits for mentors: increased self-awareness and growth, friendship, satisfaction and pride in observing protege's growth and ability to focus on goals, knowledge that the school gained strength through involvement of his/her protege, and fulfillment of "need to be needed."[45]

There is little evidence that professed goals of mentor teacher programs are met. However, longevity may be some indication of effectiveness -- if not for the intended outcomes, for others. The California Mentor Teacher Program, highlighted in the following description, was created by the legislature in 1983. Laura Wagner, Manager of the Staff Development Unit, stated that the program has been a good staff development tool and a method to recognize and reward teachers. As the legislature did not appropriate funds for a systematic study of retention rates regarding beginning or mentor teachers, those data are not available.

In developing and implementing the statewide program, Ms. Wagner indicated the state has learned that:

- It was very beneficial for state department staff to gain input from teachers before the statewide program was developed.
- A district can agree to participate in the program, but teachers need to support it to work.

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[44]Michael M. Fagan and Glen Walter, "Mentoring Among Teachers," Journal of Educational Research, 76 (November-December 1982), p. 116.

[45]Judy Arin-Krupp, "Mentor and Protege Perceptions of Mentoring Relationships in an Elementary and Secondary School in Connecticut" (paper presented at the 68th Annual Meeting of the American Educational Research Association, New Orleans, LA, April 23-27, 1984), pp. 20-23.

- Discussions with parents, teachers, and administrators in order to establish the parameters of local programs are vital before going to the bargaining table.

- The program does not function well in school systems with fewer than five teachers. In those cases, the department suggests using a support team arrangement with a principal or assistant principal participating.

- The education community would have benefited from developing its own long-range plan (5-10 years) and then approaching the legislature for funds. That action would have eliminated the piecemeal approach the state has taken.

In addition, she also referred to adequate timelines, training for mentors, and sufficient funds with a particular emphasis on evaluation -- all of which are reflected in the aforementioned variables of a successful program.[46]

Programs. The goal of the **California Mentor Teacher Program** is to expand rewards and opportunities in teaching, thereby retaining capable teachers and enlarging the resources available for staff development and school improvement. The legislation provides for some of the state's teachers to be recognized publicly for their excellence -- based upon performance -- by awarding them the title of "mentor," providing them with release time, and giving them access to specific resources (e.g., travel, training, materials, and equipment).

Funding for the program began in the second half of the 1983-84 school year. Despite the fact that participation in the program is voluntary, 741 school districts -- containing 90% of the state's teachers -- participated during its first full year of operation. Although the legislation allowed up to five percent of a district's teachers to become mentors, initial funding provided for less than 5 percent of a district's teachers.

Each mentor receives a $4,000 stipend, while the local district receives an additional $2,000 per mentor to cover support costs, such as training and released time. According to the legislation, mentors must spend 60% of their time in their own classrooms. The rest of their time can be allocated to assisting new teachers, training teachers, and developing curriculum.

Despite the fact that participation in the program is not subject to collective bargaining, local districts could and did negotiate issues such as procedures followed by local selection committees, released time, the responsibilities and duties of mentors, and the use of support funds. These negotiations slowed implementation of

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[46]Laura Wagner, telephone conversation, 24 February 1986.

programs in some districts, but may have also contributed to teacher acceptance.

The local selection committee, a majority of whose members are teachers, nominates exemplary teachers. Then, the local boards appoint them to serve as mentors for a period of one to three years. As the legislation delegates tremendous discretion to local boards, procedures for selecting mentors and their duties vary considerably across districts.[47]

Conclusions

Piecing the puzzle of improved teacher quality together will not be an easy, one solution task. As evidenced by the literature, attention must be given to improving working conditions, professional preparation, and professional development. Concentrating efforts on one aspect will solve only a portion of the puzzle.

Hopefully, the information presented in this report will offer much food for thought to educators and policymakers. It is time to designate which problems to address; to define the goals to be achieved; to determine the audience to be reached (i.e., individuals, schools, districts, and/or institutes of higher education); to evaluate the options available; to tailor these policies and programs; and to plan, implement, and evaluate them to assure the achievement of the desired goals and objectives.

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[47]Bruce Barnett, Sandra Kirkpatrick, and Judith Warren Little, "California's Mentor Teachers: Two Years of Learning," Reviews in Leadership, (Summer 1986), pp. 1-8; Lynn Cornett and Karen Weeks, "Career Ladder Plans: Trends and Emerging Issues - 1985" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, 1985), p. 11, and Laura Wagner, "Ambiguities and Possibilities in California's Mentor Teacher Program," Educational Leadership, 43 (November 1985), pp. 23-29.

APPENDIX A

Description of Achievements, Evaluative Devices, and Remunerative Rewards Associated with Tennessee's Career Ladder Program

Probationary (one-year nonrenewable certificate):

- graduated from an approved teacher-training program
- received a minimum score on the Core Battery of the National Teacher Examination
- supervised by two tenured teachers from their local school
- evaluated by local school system
- employed on ten-month contract

Apprentice (three-year nonrenewable certificate):

- one year of teaching experience required
- recommended for apprentice certificate by local school system
- evaluated annually by local school system, with state review at third year
- employed on ten-month contract

Career Level I (five-year renewable certificate):

- four years of teaching experience required for new teachers, three years of teaching experience required for teachers in the fast track who were employed prior to 1 July 1984
- passed review of local district's evaluation by personnel from the state department of education
- evaluated twice during this five-year period by local school system
- employed on regular ten-month contract
- receives $1,000 incentive annually

APPENDIX A

Description of Achievements, Evaluative Devices, and Remunerative Rewards Associated with Tennessee's Career Ladder Program (con't.)

- local school system's evaluation reviewed by personnel from state department of education and interview with teacher conducted during fifth year[1]

Career Level II (five-year renewable certificate):

- nine years of teaching experience required for new teachers, eight years for those in fast track
- passed comprehensive evaluation, using system approved by state board
- evaluated twice during this five-year period by local school system, with state review at fifth year
- selected ten-month contract with $2,000 annual incentive or eleven-month contract with $4,000 annual incentive

Career Level III (five-year renewable certificate):

- 13 years of teaching experience required for new teachers, 12 years for those in fast track
- passed comprehensive state evaluation, using system approved by state board
- evaluated by local school district twice during five-year period, with state review at fifth year
- selected ten-month contract with $3,000 incentive, eleven-month contract with $5,000 incentive, or twelve-month with $7,000 incentive[2]

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[1]If disagreement arises between local school district's evaluation and that of the state, a state-assigned evaluation team conducts a full evaluation.

[2]Lynn Cornett and Karen Weeks, "Career Ladder Plans: Trends and Emerging Issues - 1985" (Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, 1985), pp. 8-9 and "Tennessee Teachers Test Career-Ladder Rungs," State Education Leader 4(Summer 1985), p. 10.

APPENDIX B

Data on Selected Projects Funded by the Office of Educational Research and Improvement, U.S. Department of Education

Project Title/Institution	Goal(s)	Level	Collaborators	Contact Person
"The Baruch College-New York City Internship" Baruch College-University of New York	• To design, develop, and implement a year-long graduate level internship for beginning elementary and early childhood teachers with non-education baccalaureate degrees	Pre-school -grade 6	• University faculty (Schools of Education and Liberal Arts) • New York State Education Department • New York City Public Schools • United Federation of Teachers	Patricia M. Kay Baruch College School of Education 17 Lexington Ave. Box 505 New York NY 10010
"Collaboration for Improvement of Teacher Education" Eastern Michigan University	• To design and implement set of pre-student teaching field experiences by fall of 1986 which will enable students to view teaching as systematic, deliberate activity and to base their decisions on a firm body of knowledge • To produce videotapes that illustrate various lessons, activities, or concepts in the fall of 1986 and pilot test in winter semester of 1987		• University personnel • District personnel (teachers, principals, support staff) [All work sessions for development of activities had 1 state education agency representative.]	Georgea M. Sparks Department of Teacher Education Eastern Michigan University Ypsilanti MI 48197

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Project Title/Institution	Goal(s)	Level	Collaborators	Contact Person
"Developing Research Based Teaching Skills" Indiana University	• To strengthen application by preservice teacher trainees of research-based teaching behaviors and skills in the classroom		• University faculty • District personnel • Project staff	Anna Ochoa Director of Undergraduate Activities School of Education Indiana University Bloomington IN 47405
"Preparing Academically Talented Students for Teaching: An Alternative Teacher Education Program" Kent State University	• To develop an alternative teacher education program to attract and motivate academically talented students to enter the teaching profession; coursework will focus on current research on teaching, learning, and the conduct of schools	K-12	• University faculty • Public school faculty	Jane H. Applegate College of Education Kent State University Kent OH 44242
"Teacher Education Mentor Teacher Project" Michigan State University	• To modify the Academic Learning Teacher Education Program so that two important bodies of research are fully integrated into the program: research on conceptual change in teaching and learning of academic subject matter and research on preservice teacher education and its relation to classroom practice • To integrate new 2-year preservice field experience, utilizing collaborating mentor teachers into the program	K-12	• University faculty • District personnel	Perry Lanier College of Education Department of Teacher Education Michigan State University E. Lansing MI 48824

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Project Title/Institution	Goal(s)	Level	Collaborators	Contact Person
"Research Applications for Teaching (RAFT)" Mississippi State University	• To develop instructional modules which will serve as a core for professional education requirements for training all preservice teachers at the university	K-12	• University faculty • District personnel • Mississippi State Department of Education	James R. Thomason, Jr. Office of Student Teaching/ Certification College of Education Mississippi State University Mississippi MS 39762
"Reflective Inquiry Teacher Education Program" University of Houston	• To prepare individuals to function effectively in complex settings and in complex decision-making activities • To prepare teachers who are analytical and reflective about teaching and the needs and actions of students	K-12	• Houston Area Teacher Education Center (22 school districts and their related professional organizations) • University faculty	W. Robert Houston Associate Dean for Academic Affairs College of Education University of Houston University Park 4800 Calhoun Houston TX 77004
"Development and Implementation of the Kansas Assistance-Assessment Protocol for Beginning Teachers" University of Kansas	• To develop, implement, and make available for demonstration and dissemination a protocol for assisting and assessing teachers during the internship year	K-12	• Local school districts • Kansas State Department of Education • Schools, colleges, and departments of education throughout the state	John Poggio Center for Education Testing and Evaluation University of Kansas Lawrence KS 66045

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Project Title/Institution	Goal(s)	Level	Collaborators	Contact Person
"Using Research Knowledge to Improve Teacher Education: Training Principals to Become Teacher Educators" University of Louisville	• To train selected middle school principals to assume the role of teacher educators for schools that will eventually serve as site-based professional schools for educational research, development, and training	Middle Schools	• University faculty • Jefferson County Public Schools • JCPS/Gheens Professional Development Academy	Betty Lou Whitford School of Education University of Louisville Louisville KY 40292
"Clinical Classroom Project" University of Maryland	• To initiate structure and process for creating, studying, and maintaining a cadre of clinical classrooms in Maryland in regular K-12 schools or colleges of education	K-12	• Selected IHEs • Key local education agencies • Maryland Department of Education	Richard I. Arends Project Director and Chair Department of Curriculum and Instruction College of Education University of Maryland College Pk MD 20742
"Applying Research to Program Design: An Alternative Elementary Teacher Education Program" University of Nebraska-Lincoln	• To develop an alternative elementary teacher education program that has components which address the initial preparation of elementary teachers, a program to prepare teacher educators, and a related action research program involving preservice teachers, teacher educators, and practicing teachers	K-6	• University faculty (Education and Arts and Sciences) • Graduate students • Nebraska State Department of Education	Robert L. Egbert 37 Henzlik Teachers College University of Nebraska-Lincoln Lincoln NB 68588

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Project Title/Institution	Goal(s)	Level	Collaborators	Contact Person
"A Collaborative Approach to Leadership in Supervision" University of New Hampshire	• To improve University of New Hampshire's internship experience by working in on-site collaborative supervision groups (principal supervision group and teacher supervision groups) designed to focus on and demonstrate framework for supervision explored by collaborative supervision groups in Year 1 • To have principal supervision group and teacher supervision groups experiment with different models and share reactions • To organize and coordinate an Exploring Teacher course seminar for 15 undergraduates who are thinking about teaching as a career (includes 5 hours/week in classroom and 2 hours/week on-site in schools)	K-6	• University faculty • Local school district	Sharon Nodie Oja Department of Education 105B Morrill Hall University of New Hampshire Durham NH 03824
"Prototype for Automated Teacher Performance Assessment" University of Southern Mississippi	• To train a cadre of university faculty in the use of the Mississippi Model for Performance Assessment of Beginning Teachers • To have this cadre of university faculty work with local education agency personnel in assessing student teaching and beginning teaching experiences • To develop a computer-managed, performance-based system to relate student teaching performances to earlier classwork and to serve as one basis for university-school collaboration in review and revision of the teacher education program	K-12	• University faculty • Forrest County Public Schools faculty • Undergraduate students • Mississippi State Department of Education	James A. Siders College of Education and Psychology Southern Station, Box 5023 University of So. Mississippi Hattiesburg MS 39406

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Project Title/Institution	Goal(s)	Level	Collaborators	Contact Person
"Utilising Research to Revise, Implement, and Evaluate the Professional Studies Component of a Teacher Education Program" Western Kentucky University	• To re-write the content and the outcomes of the university's teacher education program in elementary, middle grades, and secondary education to assure that its graduates will be capable of demonstrating competent teaching during observation by Beginning Teacher Internship Committee (observation system based on Florida Performance Measurement System)	K-12	• University faculty • Representatives from consortium of 26 public schools	Roger Pankratz College of Education and Behavioral Science Western Kentucky University Bowling Green KY 42101

REFERENCES

Astuto, Terry A., and David L. Clark. Merit Pay for Teachers: An Analysis of State Policy Options. Bloomington: School of Education, Indiana University, 1985.

Bain, Helen Pate, and C. M. Achilles. "Interesting Developments on Class Size." Phi Delta Kappan 67 (May 1986): 662-665.

Barnett, Bruce, Sandra Kirkpatrick, and Judith Warren Little. "California's Mentor Teachers: Two Years of Learning." Reviews in Leadership (Summer 1986): 1-8.

Bourke, Sid. "How Small Is Better: Some Relationships Between Class Size, Teaching Practices, and Student Achievement." American Educational Research Journal 23 (Winter 1986): 558-571.

Cornett, Lynn, and Karen Weeks, "Career Ladder Plans: Trends and Emerging Issues - 1985." Atlanta: Career Ladder Clearinghouse, Southern Regional Educational Board, 1985.

Cornett, Lynn. "Implementing Plans: Success and Change." Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, March 1986.

Cornett, Lynn. "Trends and Emerging Issues in Career Ladder Plans." Educational Leadership 43 (November 1985): 6-10.

Cornett, Lynn. "1986 - Incentive Programs for Teachers and Administrators: How Are They Doing?" Atlanta: Career Ladder Clearinghouse, Southern Regional Education Board, December 1986.

Darling-Hammond, Linda. Beyond the Commission Reports: The Coming Crisis in Teaching. Santa Monica: The Rand Corporation, 1984.

Department of Communications Services. Staff Development Program. Lakewood, CO: Jefferson County Public Schools, 1985.

"Exemplary Staff Development Programs." The School Administrator 42 (February 1985): 16-20.

Fagan, Michael M., and Glen Walter. "Mentoring Among Teachers." Journal of Educational Research 76 (November-December 1982): 113-118.

Filby, Nikola, Leonard Cahen, Gail McCutcheon, and Diane Kyle. What Happens in Smaller Classes? San Francisco: Far West Laboratory for Educational Research and Development, 1980.

Furtwengler, Carol. "Tennessee's Career Ladder Plan: They Said It Couldn't Be Done!" Educational Leadership 43 (November 1985): 50-56.

Glass, Gene V., and Mary Lee Smith. Meta-Analysis of Research on the Relationship of Class-Size and Achievement. San Francisco: Far West Laboratory for Educational Research and Development, 1978.

Green, Joslyn, ed. What Next? More Leverage for Teachers. Denver: Education Commission of the States, 1986.

The Holmes Group. Tomorrow's Teachers: A Report of the Holmes Group. East Lansing: The Holmes Group, Inc., 1986.

Huling-Austin, Leslie. "Teacher Induction Programs: What Is and Isn't Reasonable to Expect." R&DCTE Review 3 (Fall 1985): 1-2, 5.

Hume, Maggie. "Holmes Group Turns from Teachers to Schools in New Reform Plans." Education Daily 20(February 3, 1987), pp. 1-2.

"Implementation Plan: Establishing a Cadre of Clinical Classrooms to Improve Teacher Education Through Research." University of Maryland, College Park. Photocopy.

Joyce, Bruce R., Richard H. Hersh, and Michael K. McKibben. "Effective Staff Training for School Improvement." In The Structure of School Improvement. New York: Longman, Inc., 1983.

Jung, Steven M. Guidelines for Evaluating Teacher Incentive Systems. Denver: Education Commission of the States, 1984.

Krupp, Judy Arin. "Mentor and Protege Perceptions of Mentoring Relationships in an Elementary and Secondary School in Connecticut." Paper presented at the 68th Annual Meeting of the American Educational Research Association, New Orleans, LA, April 23-27, 1984.

Loucks, Susan F. and Patricia Zigarmi. "Effective Staff Development." Educational Considerations 8 (Winter 1981): 4-8.

Loucks-Horsley, Susan, Catherine K. Harding, Margaret A. Arbuckle, Lynn B. Murray, Cynthia Dubea, and Martha K. Williams. Continuing to Learn: A Guidebook for Teacher Development. (Andover, MA, The Regional Laboratory for Educational Improvement of the Northeast and Islands, 1987).

McGuire, C. Kent and John A. Thompson. COSTS: The Costs of Performance Pay Systems. Denver: Education Commission of the States, 1984.

Oklahoma State Department of Education. Oklahoma Teacher Reform Act of 1980. Oklahoma City: Oklahoma State Department of Education, 1986.

Palaich, Robert. State Strategies to Improve Teaching. Denver: Education Commission of the States, 1985.

Palaich, Robert and Ellen Flanelly. Improving Teacher Quality Through Incentives. Denver: Education Commission of the States, 1984.

Smith, Mary Lee, and Gene V. Glass. Relationship of Class-Size to Classroom Processes, Teacher Satisfaction and Pupil Affect: A Meta-Analysis. San Francisco: Far West Laboratory for Educational Research and Development, 1979.

Sparks, Georgea M. "Synthesis of Research on Staff Development for

Effective Teaching." Educational Leadership 41 (November 1983): 65-72.

Sparks, Georgea M. "Using Research Knowledge to Improve Teacher Education." Eastern Michigan University, Ypsilanti, 1986. Photocopy.

Strother, Deborah Burnett. "Inservice Education." Practical Applications of Research 5 (March 1983): 1-4.

Task Force on Teaching. Time for Results: The Governors' 1991 Report on Education. Supporting Works. Washington, DC: National Governors' Association Center for Policy Research and Analysis, 1986.

Task Force on Teaching as a Profession. A Nation Prepared: Teachers for the 21st Century. Washington, DC: Carnegie Forum on Education and the Economy, 1986.

"Tennessee Teachers Test Career-Ladder Rungs." State Education Leader 4(Summer 1985): 9-10.

Wagner, Laura. "Ambiguities and Possibilities in California's Mentor Teacher Program." Educational Leadership 43 (November 1985): 23-29.

Waters, Cheryl M., and Terry L. Wyatt. "Toledo's Internship: The Teacher's Role in Excellence." Phi Delta Kappan 66 (January 1985): 365-367.

Wood, Fred H., Steven R. Thompson, and Sister Frances Russell. "Designing Effective Staff Development Programs," In Staff Development/Organization Development, edited by Betty Dillon-Peterson, 59-62. Alexandria: Association for Supervision and Curriculum Development, 1981.